SYNTHETICALLY FOCUSED ULTRASONIC DIAGNOSTIC IMAGING SYSTEM FOR TISSUE AND FLOW IMAGING

Abstract of the disclosure:

A synthetic focus ultrasound system is described which is operated in a hybrid fashion. System operation alternates between synthetic focus acquisition and conventional focused beam acquisition. This makes possible, for example, the acquisition and display of harmonic images. Speckle artifacts in the synthetic focused ultrasound images may be reduced by combining signals from different sub-apertures which view the image field from different look directions. In a described embodiment, sets of motion maps are be produced for different sub-apertures of the array transducer, then compounded to reduce speckle. One or more identified regions of interest within a synthetic focused ultrasound image may be processed differently from other regions of the image to highlight or better define particular motional characteristics within the regions of interest, such as turbulent flow or different velocities of flow or motion.